**Supplementary Table S1.** Study time-periods specified per year according to the Gregorian calendar.

| Year | Period* | | | | Total (days) |
|------|---------|---|---|---|--------------|
| | **-1m** | **Ramadan** | **+1m** | **+2m** | |
| 2002 | 7-Oct-2002 - 5-Nov-2002 | 6-Nov-2002 - 5-Dec-2002 | 6-Dec-2002 - 4-Jan-2003 | 5-Jan-2003 - 3-Feb-2003 | 116 |
| 2003 | 26-Sep-2003 - 26-Oct-2003 | 27-Oct-2003 - 26-Nov-2003 | 27-Nov-2003 - 27-Dec-2003 | 28-Dec-2003 - 27-Jan-2004 | 120 |
| 2004 | 16-Sep-2004 - 15-Oct-2004 | 16-Oct-2004 - 14-Nov-2004 | 15-Nov-2004 - 14-Dec-2004 | 15-Dec-2004 - 13-Jan-2005 | 116 |
| 2005 | 5-Sep-2005 - 4-Oct-2005 | 5-Oct-2005 - 3-Nov-2005 | 4-Nov-2005 - 3-Dec-2005 | 4-Dec-2005 - 2-Jan-2006 | 116 |
| 2006 | 25-Aug-2006 - 23-Sep-2006 | 24-Sep-2006 - 23-Oct-2006 | 24-Oct-2006 - 22-Nov-2006 | 23-Nov-2006 - 22-Dec-2006 | 116 |
| 2007 | 14-Aug-2007 - 12-Sep-2007 | 13-Sep-2007 - 12-Oct-2007 | 13-Oct-2007 - 11-Nov-2007 | 12-Nov-2007 - 11-Dec-2007 | 116 |
| 2008 | 4-Auj-2008 - 1-Sep-2008 | 2-Sep-2008 - 30-Sep-2008 | 1-Oct-2008 - 29-Oct-2008 | 30-Oct-2008 - 27-Nov-2008 | 112 |
| 2009 | 23-Jul-2009 - 21-Aug-2009 | 22-Aug-2009 - 20-Sep-2009 | 21-Sep-2009 - 20-Oct-2009 | 21-Oct-2009 - 19-Nov-2009 | 116 |
| 2010 | 12-Jul-2010 - 10-Aug-2010 | 11-Aug-2010 - 9-Sep-2010 | 10-Sep-2010 - 9-Oct-2010 | 10-Oct-2010 - 8-Nov-2010 | 116 |
| 2011 | 3-Jul-2011 - 31-Jul-2011 | 1-Aug-2011 - 29-Aug-2011 | 30-Aug-2011 - 27-Sep-2011 | 29-Sep-2011 - 26-Oct-2011 | 112 |
| 2012 | 20-Jun-2012 - 19-Jul-2012 | 20-Jul-2012 - 18-Aug-2012 | 19-Aug-2012 - 17-Sep-2012 | 18-Sep-2012 - 17-Oct-2012 | 116 |
| 2013 | 9-Jun-2013 - 8-Jul-2013 | 9-Jul-2013 - 7-Aug-2013 | 8-Aug-2013 - 6-Sep-2013 | 7-Sep-2013 - 6-Oct-2013 | 116 |
| 2014 | 30-May-2014 - 28-Jun-2014 | 29-Jun-2014 - 28-Jul-2014 | 29-Jul-2014 - 27-Aug-2014 | 18-Aug-2014 - 26-Sep-2014 | 116 |
| 2015 | 20-May-2015 - 17-Jun-2015 | 18-Jun-2015 - 16-Jul-2015 | 17-Jul-2015 - 14-Aug-2015 | 15-Aug-2015 - 12-Sep-2015 | 112 |
| 2016 | 9-May-2016 - 6-Jun-2016 | 7-Jun-2016 - 5-Jul-2016 | 6-Jul-2016 - 3-Aug-2016 | 4-Aug-2016 - 1-Sep-2016 | 112 |
| 2017 | 28-Apr-2017 - 26-May-2017 | 27-May-2017 - 24-Jun-2017 | 25-Jun-2017 - 23-Jul-2017 | 24-Jul-2017 - 21-Aug-2017 | 112 |
| **Total (days)** | **460** | **460** | **460** | **460** | **1840** |

Legend: -1m – one-month prior to Ramadan, Ramadan – month of Ramadan, +1m – one-month post-Ramadan, +2m – two-months post-Ramadan.

Ramadan fast begins and ends on the evening of specified date.

**Supplementary Table S2.** Baseline characteristics of the Non-Muslim study population by period.

| | -1 m | Ramadan | + 1 m | + 2 m | Total | p |
|---|---|---|---|---|---|---|
| N | 1137 | 1179 | 1305 | 1333 | 4954 | |
| **Demographics** | | | | | | |
| Age, Mean (SD) | 68.41 (13.38) | 68.56 (13.54) | 69.06 (13.56) | 69.10 (13.64) | 68.80 (13.53) | 0.483 |
| 65-75 | 299 (26.3) | 266 (22.6) | 289 (22.1) | 311 (23.3) | 1165 (23.5) | 0.279 |
| ≥75 | 386 (33.9) | 422 (35.8) | 494 (37.9) | 491 (36.8) | 1793 (36.2) | |
| Sex, Males | 759 (66.8) | 796 (67.5) | 842 (64.5) | 867 (65.0) | 3264 (65.9) | 0.351 |
| **Cardiac diseases** | | | | | | |
| Cardiomegaly | 143 (12.6) | 125 (10.6) | 139 (10.7) | 143 (10.7) | 550 (11.1) | 0.353 |
| Supraventricular arrhythmias | 211 (18.6) | 244 (20.7) | 234 (17.9) | 248 (18.6) | 937 (18.9) | 0.329 |
| CHF | 218 (19.2) | 241 (20.4) | 313 (24.0) | 312 (23.4) | 1084 (21.9) | 0.009 |
| Pulmonary heart disease | 130 (11.4) | 126 (10.7) | 148 (11.3) | 159 (11.9) | 563 (11.4) | 0.810 |
| CIHD | 939 (82.6) | 970 (82.3) | 1077 (82.5) | 1060 (79.5) | 4046 (81.7) | 0.128 |
| **Cardiovascular risk factors** | | | | | | |
| Renal diseases | 142 (12.5) | 174 (14.8) | 196 (15.0) | 206 (15.5) | 718 (14.5) | 0.169 |
| Diabetes mellitus | 480 (42.2) | 513 (43.5) | 616 (47.2) | 618 (46.4) | 2227 (45.0) | 0.043 |
| Dyslipidemia | 841 (74.0) | 848 (71.9) | 945 (72.4) | 943 (70.7) | 3577 (72.2) | 0.354 |
| Hypertension | 624 (54.9) | 703 (59.6) | 758 (58.1) | 742 (55.7) | 2827 (57.1) | 0.072 |
| Obesity | 210 (18.5) | 235 (19.9) | 288 (22.1) | 279 (20.9) | 1012 (20.4) | 0.156 |
| Smoking | 450 (39.6) | 438 (37.2) | 493 (37.8) | 506 (38.0) | 1887 (38.1) | 0.666 |
| PVD | 166 (14.6) | 181 (15.4) | 213 (16.3) | 191 (14.3) | 751 (15.2) | 0.494 |
| Family history of IHD | 94 (8.3) | 88 (7.5) | 92 (7.0) | 101 (7.6) | 375 (7.6) | 0.726 |
| **Other disorders** | | | | | | |
| COPD | 86 (7.6) | 105 (8.9) | 112 (8.6) | 142 (10.7) | 445 (9.0) | 0.055 |
| Neurological disorders | 220 (19.3) | 248 (21.0) | 262 (20.1) | 291 (21.8) | 1021 (20.6) | 0.444 |
| Malignancy | 54 (4.7) | 69 (5.9) | 63 (4.8) | 66 (5.0) | 252 (5.1) | 0.587 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Anemia | 533 (46.9) | 582 (49.4) | 680 (52.1) | 671 (50.3) | 2466 (49.8) | 0.075 |
| GI bleeding | 32 (2.8) | 46 (3.9) | 42 (3.2) | 35 (2.6) | 155 (3.1) | 0.279 |
| Schizophrenia/Psychosis | 20 (1.8) | 18 (1.5) | 25 (1.9) | 18 (1.4) | 81 (1.6) | 0.681 |
| Alcohol/drug addiction | 32 (2.8) | 35 (3.0) | 33 (2.5) | 37 (2.8) | 137 (2.8) | 0.927 |
| History of malignancy | 79 (6.9) | 84 (7.1) | 74 (5.7) | 94 (7.1) | 331 (6.7) | 0.402 |
| **Administrative characteristics of the hospitalization** | | | | | | |
| LOS, >7 days | 540 (47.5) | 585 (49.6) | 630 (48.3) | 620 (46.5) | 2375 (47.9) | 0.463 |
| STEMI | 454 (39.9) | 463 (39.3) | 532 (40.8) | 543 (40.7) | 1992 (40.2) | 0.852 |
| **Results of echocardiography** | | | | | | |
| Echocardiography performance | 808 (71.1) | 848 (71.9) | 909 (69.7) | 918 (68.9) | 3483 (70.3) | 0.337 |
| Severe LV dysfunction | 110 (13.6) | 112 (13.2) | 145 (16.0) | 117 (12.7) | 484 (13.9) | 0.202 |
| LV hypertrophy | 51 (6.3) | 51 (6.0) | 44 (4.8) | 57 (6.2) | 203 (5.8) | 0.521 |
| Mitral regurgitation | 46 (5.7) | 58 (6.8) | 77 (8.5) | 77 (8.4) | 258 (7.4) | 0.084 |
| Tricuspid regurgitation | 45 (5.6) | 39 (4.6) | 44 (4.8) | 48 (5.2) | 176 (5.1) | 0.811 |
| Pulmonary hypertension | 79 (9.8) | 96 (11.3) | 96 (10.6) | 83 (9.0) | 354 (10.2) | 0.424 |
| **Results of angiography** | | | | | | |
| Angiography performance | 743 (65.3) | 749 (63.5) | 799 (61.2) | 775 (58.1) | 3066 (61.9) | 0.002 |
| Measure of CAD, No or non-significant | 33 (4.4) | 24 (3.2) | 40 (5.0) | 34 (4.4) | 131 (4.3) | |
| One vessel | 182 (24.5) | 182 (24.3) | 172 (21.5) | 195 (25.2) | 731 (23.8) | 0.322 |
| Two vessels | 204 (27.5) | 190 (25.4) | 208 (26.0) | 218 (28.1) | 820 (26.7) | |
| Three vessels/ LM | 324 (43.6) | 353 (47.1) | 379 (47.4) | 328 (42.3) | 1384 (45.1) | |
| **Type of treatment** | | | | | | |
| Noninvasive | 353 (31.0) | 363 (30.8) | 439 (33.6) | 496 (37.2) | 1651 (33.3) | |
| PCI | 665 (58.5) | 695 (58.9) | 725 (55.6) | 706 (53.0) | 2791 (56.3) | 0.014 |
| CABG | 119 (10.5) | 121 (10.3) | 141 (10.8) | 131 (9.8) | 512 (10.3) | |

The data are presented as n (%) unless otherwise stated. CABG - coronary artery bypass graft, CAD - coronary artery disease, CHF - chronic heart failure, CIHD - chronic ischemic heart disease, COPD - chronic obstructive pulmonary disease, GI - gastrointestinal, IHD - ischemic heart disease, LM - left main, LOS - length of stay, LV - left ventricular, PCI - percutaneous coronary intervention, PVD - peripheral vascular disease SD - standard deviation, STEMI – ST-elevation myocardial infarction.

Legend: -1m – one-month prior to Ramadan, Ramadan – month of Ramadan, +1m – one-month post-Ramadan, +2m – two-months post-Ramadan.

**Supplementary Table S3.** Results of the multivariate models for one-month mortality: A) for the Muslim population and B) for Non-Muslim population.

A)

| Parameter | B (SE) | AdjOR | (95% CI) | p |
|---|---|---|---|---|
| **Period** | | | | |
| -1m | | 1 (ref.) | | |
| Ramadan | 0.804 (0.545) | 2.234 | (0.767 ; 6.501) | 0.140 |
| +1m | 0.997 (0.504) | 2.709 | (1.008 ; 7.280) | 0.048 |
| +2m | 0.420 (0.555) | 1.522 | (0.513 ; 4.514) | 0.449 |
| **Year of AMI Event** | | | | |
| 2002 | | 1 (ref.) | | |
| 2003 | 0.858 (1.099) | 2.358 | (0.274 ; 20.317) | 0.435 |
| 2004 | 0.122 (1.167) | 1.130 | (0.115 ; 11.134) | 0.917 |
| 2005 | -1.348 (1.643) | 0.260 | (0.010 ; 6.505) | 0.412 |
| 2006 | 0.415 (1.358) | 1.514 | (0.106 ; 21.676) | 0.760 |
| 2007 | 0.329 (1.292) | 1.390 | (0.110 ; 17.498) | 0.799 |
| 2008 | 1.293 (1.136) | 3.645 | (0.393 ; 33.806) | 0.255 |
| 2009 | -0.256 (1.186) | 0.774 | (0.076 ; 7.905) | 0.829 |
| 2010 | 1.305 (1.166) | 3.688 | (0.375 ; 36.276) | 0.263 |
| 2011 | -0.319 (1.342) | 0.727 | (0.052 ; 10.075) | 0.812 |
| 2012 | 0.522 (1.182) | 1.686 | (0.166 ; 17.088) | 0.659 |
| 2013 | 0.758 (1.212) | 2.134 | (0.198 ; 22.976) | 0.532 |
| 2014 | 2.147 (1.115) | 8.559 | (0.962 ; 76.170) | 0.054 |
| 2015 | 1.805 (1.207) | 6.079 | (0.571 ; 64.749) | 0.135 |
| 2016 | 0.761 (1.341) | 2.141 | (0.155 ; 29.648) | 0.570 |

| | | | | |
|---|---|---|---|---|
| 2017 | 0.436 (1.134) | 1.546 | (0.167 ; 14.277) | 0.701 |
| **Patient characteristics** | | | | |
| Age, one year increase | 0.055 (0.015) | 1.057 | (1.027 ; 1.088) | <0.001 |
| CIHD | -0.994 (0.402) | 0.370 | (0.169 ; 0.813) | 0.013 |
| Renal diseases | 1.230 (0.420) | 3.420 | (1.502 ; 7.786) | 0.003 |
| Anemia | 0.801 (0.353) | 2.228 | (1.115 ; 4.449) | 0.023 |
| GI bleeding | 1.981 (0.626) | 7.248 | (2.124 ; 24.733) | 0.002 |
| Type of AMI, STEMI vs. NSTEMI | 1.208 (0.337) | 3.348 | (1.729 ; 6.482) | <0.001 |
| Severe LV dysfunction | 1.236 (0.494) | 3.441 | (1.308 ; 9.056) | 0.012 |

B)

| Parameter | B (SE) | AdjOR | (95% CI) | p |
|---|---|---|---|---|
| **Period** | | | | |
| -1m | | 1 (ref.) | | |
| Ramadan | 0.327 (0.176) | 1.387 | (0.982 ; 1.960) | 0.064 |
| +1m | 0.283 (0.175) | 1.327 | (0.943 ; 1.870) | 0.105 |
| +2m | 0.304 (0.172) | 1.355 | (0.968 ; 1.897) | 0.077 |
| **Year of AMI Event** | | | | |
| 2002 | | 1 (ref.) | | |
| 2003 | 0.447 (0.310) | 1.563 | (0.851 ; 2.871) | 0.150 |
| 2004 | 0.409 (0.308) | 1.505 | (0.823 ; 2.752) | 0.184 |
| 2005 | -0.101 (0.329) | 0.904 | (0.474 ; 1.723) | 0.759 |
| 2006 | 0.196 (0.326) | 1.216 | (0.642 ; 2.306) | 0.548 |
| 2007 | -0.017 (0.357) | 0.983 | (0.489 ; 1.977) | 0.962 |
| 2008 | -0.720 (0.423) | 0.487 | (0.212 ; 1.115) | 0.089 |
| 2009 | 0.402 (0.344) | 1.495 | (0.762 ; 2.936) | 0.242 |

| | | | | |
|---|---|---|---|---|
| 2010 | -0.274 (0.355) | 0.761 | (0.379 ; 1.526) | 0.441 |
| 2011 | -0.094 (0.402) | 0.910 | (0.414 ; 2.001) | 0.815 |
| 2012 | 0.095 (0.352) | 1.100 | (0.552 ; 2.190) | 0.787 |
| 2013 | 0.649 (0.344) | 1.914 | (0.976 ; 3.753) | 0.059 |
| 2014 | 0.872 (0.348) | 2.391 | (1.209 ; 4.729) | 0.012 |
| 2015 | 0.747 (0.368) | 2.110 | (1.026 ; 4.340) | 0.042 |
| 2016 | 0.214 (0.378) | 1.238 | (0.591 ; 2.597) | 0.571 |
| 2017 | 0.344 (0.350) | 1.411 | (0.710 ; 2.804) | 0.326 |
| **Patients characteristics** | | | | |
| Age, one year increase | 0.038 (0.006) | 1.038 | (1.027 ; 1.05) | <0.001 |
| CIHD | -0.529 (0.143) | 0.589 | (0.445 ; 0.78) | <0.001 |
| Renal diseases | 1.314 (0.130) | 3.719 | (2.882 ; 4.800) | <0.001 |
| Dyslipidemia | -0.500 (0.122) | 0.607 | (0.478 ; 0.770) | <0.001 |
| PVD | 0.499 (0.141) | 1.647 | (1.249 ; 2.172) | <0.001 |
| Malignancy | 0.397 (0.202) | 1.487 | (1.001 ; 2.211) | 0.049 |
| Anemia | 0.490 (0.132) | 1.633 | (1.261 ; 2.114) | <0.001 |
| GI bleeding | 0.528 (0.253) | 1.696 | (1.032 ; 2.787) | 0.037 |
| Type of AMI, STEMI vs. NSTEMI | 0.890 (0.133) | 2.435 | (1.875 ; 3.162) | <0.001 |
| Severe LV dysfunction | 1.167 (0.184) | 3.213 | (2.243 ; 4.603) | <0.001 |
| Mitral regurgitation | 0.642 (0.238) | 1.900 | (1.193 ; 3.026) | 0.007 |
| Type of treatment, invasive vs. non-invasive | -0.471 (0.162) | 0.624 | (0.455 ; 0.857) | 0.004 |

AdjOR – adjusted odds ratio, AMI – acute myocardial infarction, B – regression coefficient, CI – confidence interval, CIHD - chronic ischemic heart disease, GI - gastrointestinal, LV - left ventricular, NSTEMI – non-ST-elevation myocardial infarction, PVD - peripheral vascular disease, Ref. – reference group, SE – standard error, STEMI – ST-elevation myocardial infarction.

Legend: -1m – one-month prior to Ramadan, Ramadan – month of Ramadan, +1m – one-month post-Ramadan, +2m – two-months post-Ramadan.